



FORMAL REPORT

To:	Mayor Stratthdee and Members of Council
From:	Jed Kelly, Director of Public Works
Date of Meeting:	25 April 2017
Subject:	PW 23-2017 BIA Downtown Street light globe replacement request

PURPOSE

To seek Council's approval for the St. Marys Business Improvement Association (BIA) beautification request to retrofit existing decorative street lights with non-OEM replacement globes provided by Decralite Globes and installed by Forman Electric with project costs being funded from the BIA 2017 Capital budget allocation.

RECOMMENDATION

THAT PW 23-2017 BIA Downtown Street light globe replacement request be received; and,

THAT Council authorize the Director of Public works to acquire replacement globes from Decralite Globes and approve the Forman Electric proposed installation costs with all associated costs to be funded from BIA 2017 Capital budget allocation.

BACKGROUND

During the Downtown reconstruction in 2016, BIA representatives within the construction stake holders group identified the existing decorative High Pressure Sodium (HPS) lights as "tired" looking. This is due to the advanced state of deterioration or yellowing of the poly carbonate globes. The BIA has a long standing funding reserve which has been allocated for street light fixture replacement within the downtown core.

During the 2016 downtown project planning it was quickly determined that using available BIA funding reserves to offset capital costs to complete the replacement of light fixtures would be well above available construction budgets. The fixture issue was identified as an outstanding item to be reviewed at a later date under separate budget consideration and to remain outside the scope of the 2016 Queen Street downtown reconstruction. Staff started researching possible alternative fixture replacements, but quickly determined all complete replacement options exceeded available BIA funding.

Through the research process, staff discovered several keys points:

- Existing decorative street lighting manufacture is no longer in business;
- Compatible internal HPS components are readily available;
- Replacement External components are unavailable but rarely require replacement; and,

- Existing fixtures are not dark sky friendly.

Although the existing decorative street light manufacture is no longer in business and external components are not available staff was able to determine globe replacements could be retrofitted from another manufacturer onto the existing fixture bases.

Retrofitting the existing fixtures allows for several improvements:

- Improve illumination performance to current IES RP-8-14 standard levels;
- Allows for light distribution pattern that is dark sky friendly;
- Keeping with the same night time lighting temperature that residents are accustomed to;
- Could be implemented within available BIA funding; and,
- Allows time for LED technology to improve and costs to reduce

REPORT

Staff research has concluded that the general authorities in regards to illumination standards in North American are Illuminating Engineering Society (IES) or American National Standards Institute (ANSI). The Town specifically references the IES in the St. Marys Engineering design guidelines which is used as a reference point for new development. As IES standards are already referenced for St. Marys design standards, staff requested the supplier focus on IES standards only. Specifically, focus was on the applicable standard for a Class 3 asphalt surface road, which would fall under guide IES RP-8-14.

Representatives from Decralite Globes have completed a summary illumination calculation, a full illumination study was deemed not viable given the study cost and existing pole locations are fixed and cannot be changed without significant costs. Often locations of poles and luminaires are modified within design process reflecting illumination study findings.

Demonstration testing units have been provided and installed on Wellington Street North for approximately a month with no performance issues noted. Some area residents have commented the proposed retrofitted illumination is much brighter than expected. The manufacture was consulted and Decralite Globes has cautioned that given the current state of deterioration of the existing polycarbonate globes, any modifications to the existing decorative lighting fixtures would appear much brighter than existing levels. However, the current illumination levels do not meet the standard for a Class 3 roadway.

The project scope area on Queen Street is classified as arterial and is located in the Community Improvement area of the official plan. Given the concentrated pedestrian volumes of the downtown coupled with class 3 vehicular traffic, the proposed upgrades to illumination are expected meet established standards. This coincides with the Strategic Plan and aids in creating a downtown that is pedestrian-friendly outside of daylight hours, and better positions the Town to meet minimum maintenance standards for roadways as we will not have street illumination that meets standard.

SUMMARY

Decralite Globes is proposing replacement globes that are compatible once the existing fixture bases have globe mounting points retrofitted. The proposed globes would appear much as the originals during the daytime, but are comprised of acrylic which is resistant to yellowing. Each fixture would require some additional internal modifications for compatibility, of which two options exist, either fixtures could be outfitted with 150W high pressure sodium (HPS) defused bulb, OR possible wattage reductions to 100W HPS bulb by use of replacement ballast. Decralite Globes have advised that

application of either option would allow the town meet the IES RP-8-14 standard. As noted, all costs for this project are being funded by the BIA and the BIA Board has approved this project to move forward.

Staff is recommending installation of the 150W HPS defused bulbs. This option keeps the project within the available BIA funding amount, has the same light temperature as existing, and has sustainable maintenance for the foreseeable future.

LED replacements were investigated, but proved to be well above available funding, with return on investments well above 26 years. Energy reduction of existing decorative street lights should be investigated with a town wide holistic approach to lower capital costs through economies of scale. LED technology is constantly improving on steady pace, with lumen output performance rising and costs decreasing. Furthermore direct LED conversion bulbs for HPS continue to improve, and potentially could offer a lower cost decorative LED implementation at some point in the future. Public Works staff will continue to monitor the industry for an optimal implementation solution.

FINANCIAL IMPLICATIONS

Complete project funding has been allocated through BIA reserves / 2017 budget. To date no other supplier for retrofit compatible globes has been found. Forman electric has been involved in the testing process and has provided a quotation for globe installation and required internal modifications.

Cost Breakdown:

Globe Replacements – Decralite Globes – Qty 82	\$25,338
Retrofit installation /w internals – Forman Electric – Qty 75	\$6212.50
Total 2017 Project Cost – Net HST rebate	\$32,042.19

Public Works has not allocated any capital or operating budget towards large scale decorative street light replacement, but does have maintenance costs sufficient for HPS lighting included in operating budgets. Proposed globe retrofits are projected to not incur any additional maintenance costs above regular maintenance budgets moving forward.

OTHERS CONSULTED

Strategic Plan: This program is supported by the following priorities, outcomes and tactics in the Plan:

- Pillar #1 Downtown revitalization plan
 - Outcome: Protecting St. Marys’ unique heritage assets while planning for growth in key sectors will require an integrated and balanced approach. The downtown should be perceived as a safe, central and culturally vibrant gathering area. Ultimately, the transition will be to transform St. Marys from a heritage to a cultural experience. In order to achieve this, evaluate the Heritage Conservation District Plan (HCDP).
 - Tactic(s): Make the downtown pedestrian-friendly through streetscape design.

Gary Schmidt, Decralite Globes
Andy Forman, Forman Electric

St. Marys Business Improvement Area Board

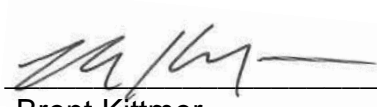
ATTACHMENTS

Project Scope Map
Decralite - installation solution recommendation
Sample Retrofitted Light fixture picture

Respectfully submitted,



Jed Kelly
Director of Public Works



Brent Kittmer
CAO / Clerk